Amendments to the Specification:

Please amend the third paragraph on page 5 as follows:

A further object of the invention is to describe an apparatus which allows lifetime measurements of ~~exited~~ excited states in a specimen and solves the drawbacks of the prior art.

Please amend the fifth paragraph bridging pages 7 and 8 as follows:

Combined light beam 27 is reflected from a beam splitter 31 to scanning module 33, which contains a gimbal-mounted scanning mirror 35 that guides combined light beam 27, via scanning optical system 37 and optical system 39 and through microscope optical system 41, over or through specimen 43. In the case of non-transparent specimens 43, combined light beam 27 is guided over the specimen surface. In the case of biological specimens 43 (preparations) or transparent specimens, combined light beam 27 can also be guided through specimen 43. This means that different focal planes of specimen 43 are also scanned successively by the light beam 3. Combined light beam 27 is depicted as a solid line. Light 45 emerging from the specimen arrives through microscope optical system 41 and via scanning module 33 at beam splitter 31, passes through the latter, and strikes detector 47, which is embodied as a photomultiplier. Light 45 emerging from specimen 43 is depicted as a dashed line. In detector 47, electrical detection signals proportional to the power level of ~~light 17~~ luminescent light 45 emerging from the specimen are generated, and are forwarded to a processing unit (not depicted). Arranged in front of the detector is a bandpass filter 48 that blocks light of the wavelengths of light beam 15.

Illumination pinhole 51 and detection pinhole 49, which are usually provided in a confocal scanning microscope, are depicted schematically for the sake of completeness. Certain optical elements for guiding and shaping the light beams are omitted, however, for better clarity; these are sufficiently known to those skilled in this art.

Please amend the first paragraph on page 9 as follows:

FIG. 4 shows a flow chart of the method according to the present invention. In a first step, generation 63 of an exciting light pulse and an emitting light pulse is accomplished. A good choice for this purpose is to use mode-coupled pulsed lasers whose light is split into two partial beams. It is also possible to use two pulsed light sources (see Fig. 3, pulsed lasers 1' and 1"), but these must then emit the light pulses in a manner synchronized with one another. In a further step, illumination 65 of the specimen with the exciting light pulse is performed. The exciting light pulse can effect either one- or multi-photon excitation. The next step is illumination 67 of the specimen with the emitting light pulse at a predefined time offset from illumination with the exciting light pulse. If the emitting light pulse strikes the specimen within the lifetime of the excited state, stimulated emission is caused. If the emitting light pulse strikes the specimen later, it does not cause any stimulated emission. In the following step, detection 69 of the power level of the luminescent light emerging from the specimen is performed; the light emitted in stimulated fashion is not detected. If stimulated emission has occurred, the power level of the luminescent light is lower than if

no stimulated emission took place. A colored filter that is embodied as a bandpass filter can be used to block out the light emitted in stimulated fashion. By repetition 71 of the first four steps with different time offsets, it is possible to determine the correlation between the power level of the luminescent light emerging from the specimen and the time offset between exciting light pulse and emitting light pulse. The last step is determination 73 of the lifetime of the excited state of the specimen, based on the correlation between the power level of the luminescent light emerging from the specimen and the time offset. The shortest time offset at which stimulated light emission just fails to occur corresponds to the lifetime of the excited state.